

COENOCHROA CHILENSIS, A NEW PHYCITINE MOTH FROM CHILE (PYRALIDAE)

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ABSTRACT. *Coenochroa chilensis* new species is described from Ñuble Province, Chile. Comparisons are made with previously known (three North American and two Brazilian) species. Illustrations include scanning electron micrographs of a denuded head capsule and photographs of the adult moth and male genitalia.

Additional key words: taxonomy, neotropics.

The three male specimens of the new species described below were discovered as a result of recent work sorting and consolidating Neotropical pyralid specimens in the collections of the U.S. National Museum of Natural History [USNM], Smithsonian Institution, Washington, D.C. No female specimens were found, but the males are distinctive in several characteristics and the species is easily differentiated from its congeners.

The genus *Coenochroa* Ragonot 1887 previously was known from three North American (see Shaffer 1968) and two recently described (Shaffer 1989) Brazilian species. In the latter paper I gave a brief review of the genus emphasizing distinguishing features of each species and providing a key. As the new species has the combination of a dentate valva in the male genitalia and no discal spot on the forewing it will not fit the first couplet of that key.

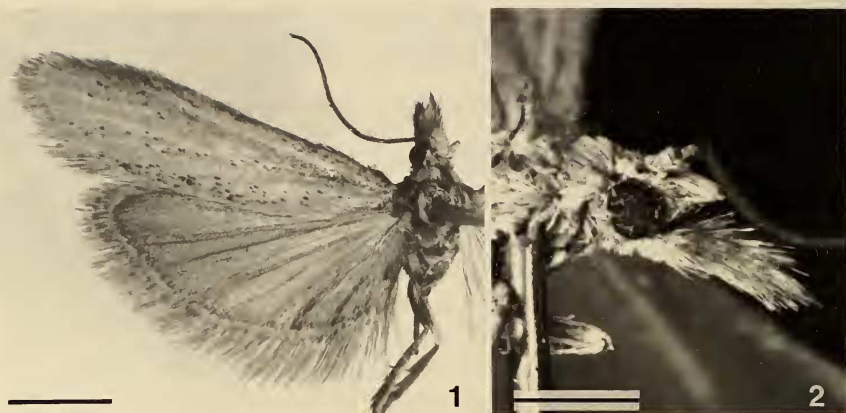
METHODS

Most color designations used below follow the ISCC-NBS Color-Name Charts (Kelly 1965), though for very small structures only general color names could be given. The scanning electron micrographs were taken using a Hitachi S-530 SEM at 15 Kv, the specimens prepared as described earlier (Shaffer 1989).

Coenochroa chilensis Shaffer, new species (Figs. 1-17)

Female. Unknown.

Male. Head. Frons light orange-yellow dorsally, dark grayish yellowish brown laterally; protuberance distally cylindrical and relatively narrow (see below), tip about 0.2 times width of frons as measured at midlevel of protuberance. Labial palpus porrect, about 4.3 times as long as eye diameter, basal segment and second segment ventrally yellowish white, second and third segments dark grayish yellowish brown on outer sides. Maxillary palpus (Fig. 8) minute, hidden by labial palpi. Proboscis (Fig. 8) vestigial, hidden by labial palpi. Antenna (Figs. 3-6, 17) filiform, basal two segments of shaft fused, cilia about half as long as segment width. Eye diameter 0.45-0.53 mm (range of the three specimens). Ocellus (Figs. 3, 6, oc) vestigial, minute, conical, lens absent. Vertex light orange-yellow



FIGS. 1-2. *Coenochroa chilensis*. 1, Holotype ♂; 2, Holotype, head, lateral view. Scale bar = 2.0 mm (1), 1.0 mm (2).

between and anterior to antennae, yellowish white posterior to antennae. Occiput dark orange-yellow laterally, pale orange-yellow dorsally. Thorax. Patagium, tegula, and pectus light orange-yellow to dark orange-yellow. Outer sides of prothoracic legs dark brown, on coxa mixed with dark orange-yellow scales. Meso- and metathoracic legs rather uniformly light grayish yellowish brown.

Forewing radius 8.5 mm. R_2 short- to very short-stalked with R_{3+5} , R_5 rather short-stalked with R_{3+4} . M_{2+3} fused, very short-stalked with Cu_1 . Ground light orange-yellow with scattered dark brown scales, these most abundant anterior to cell, astride and posterior to 2nd anal, and along cubitus. Base of cell and base of costa dark brown. Somewhat indistinct white tracing on radius, veins from distal margin of cell, cubitus, and 2nd anal.

Hindwing with two veins reaching outer wing margin from lower outer angle of cell; ground nearly uniformly light grayish yellowish brown.

Abdomen. All sides almost uniformly light grayish yellowish brown.

Male genitalia (Figs. 9-14) with medial process of gnathos (Fig. 12) U-shaped, smooth, lacking serrations. Transtilla a pair of semilunar sclerites at junction of tegumen and gnathos arms (Figs. 13, 14). Juxta nearly square, basal angles rounded. Valva with valvula broadly rounded, distally with small poorly developed blunt tooth on inner margin (Fig. 9, vertical arrow); cucullus with large blunt tooth. Vinculum rounded, lacking developed saccus; sides fused with ventral sclerites of 8th abdominal segment (Fig. 9, horizontal arrow). Aedeagus (Fig. 10) about 7.5 times as long as wide; distal $\frac{1}{4}$ with numerous minute outwardly directed dentations (Fig. 11).

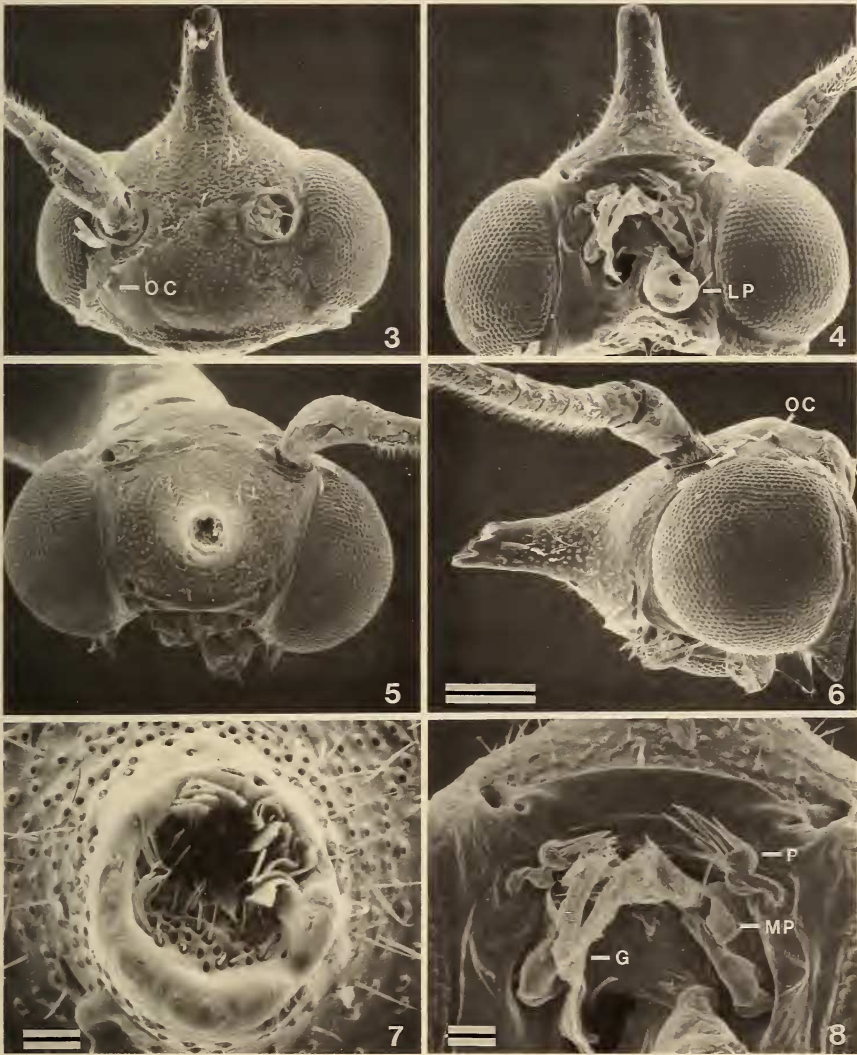
Types. Holotype male (Figs. 1, 2, 9-15), labelled: "CHILE: Ñuble Province near coastal stream 17.5 km. S. Curanipe 25 January 1979, 50 m. D. & M. Davis & B. Akerbergs"; "Genitalia Slide By J. Shaffer USNM 58165"; "Holotype *Coenochroa chilensis* Shaffer, 1992." Two male paratypes with same data as holotype except for slide numbers, first paratype (Figs. 3-8, 16, 17) USNM slide Nos. 58171 (antennae, labial palpus) and 58173 (genitalia of same specimen), second paratype undissected, each labelled: "Paratype *Coenochroa chilensis* Shaffer, 1992" [USNM].

Distribution. Known only from the type locality.

Immature stages and hosts. Unknown.

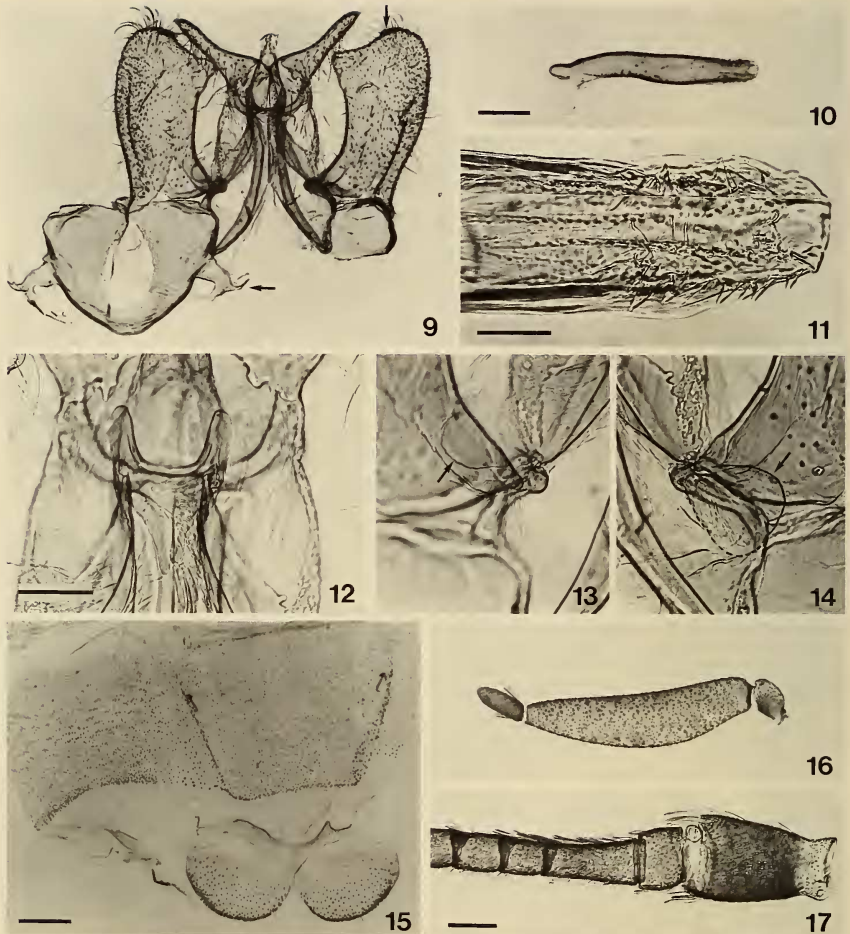
DISCUSSION

Numerous distinctions are apparent when this new species is contrasted with its congeners. The most evident external difference is the



FIGS. 3-8. *Coenochroa chilensis*, paratype δ , denuded head capsule (G = galea, LP = basal segment of labial palpus, MP = maxillary palpus, OC = ocellus, P = pilifer) in dorsal (3), ventral (4, 8), frontal (5), and lateral (6) aspects. 7, central area of frons protuberance. Scale bar = 250 μ m (3-6), 25 μ m (7), 50 μ m (8).

light orange-yellow forewing ground color, in contrast to the light yellow of other *Coenochroa*. Although this appears to be a clear distinction, it should be noted that wing patterns within the genus, particularly in regard to degree of light vs. dark coloration, exhibit con-



FIGS. 9-17. *Coenochroa chilensis*. 9-15, holotype (USNM slide no. 58165). 9, Male genitalia, aedeagus removed (vertical arrow = cucullus tooth; horizontal arrow = ventral sclerite of 8th abdominal segment); 10, Aedeagus; 11, Aedeagus tip, enlarged; 12, Medial process of gnathos, enlarged; 13-14, Enlargements to show left (up arrow) and right (outlined in ink, down arrow) sclerites of transtilla, 15, Seventh and eighth abdominal segments. 16-17, Paratype (USNM slide 58171) showing labial palpus (16) and basal region of right antenna (17) detached from head shown in Figs. 3-8. Scale bar = 200 μ m (9, 10), 50 μ m (11), 100 μ m (12-14), 250 μ m (15, 16), 50 μ m (17).

siderable intraspecific variation where large series of specimens are available for examination (i.e., the three North American *Coenochroa*). The absence of the forewing discal spot is not a unique character, but is shared only with *C. illibella* (Hulst). Also, the abdomen is grayish in color rather than the yellowish brown of other *Coenochroa*.

In all three (dried and pinned) specimens examined the abdomen was quite flat rather than cylindrical, had a delicate and emaciated aspect, and in fact proved difficult to remove intact. In paratype slide no. 58173 the sclerotized plate bearing the tympanic organs remained attached to the metathorax when the rest of the abdomen was broken away for dissection. It seems likely that this frail condition is characteristic of pinned moths of this species rather than merely an artifact of these three specimens.

The cylindrical tip of the frons is relatively narrow, its width being about 0.20 times the interocular distance as measured at midfrons level. Comparative figures for other *Coenochroa* species range from about 0.35 times in *C. californiella* Ragonot to 0.50 times in *C. illibella*, both North American species, with the Brazilian *C. dentata* Shaffer and *C. prolixa* Shaffer intermediate at about 0.45 times.

The male genitalia exhibit three apomorphies unique to this species of *Coenochroa*: fusion of the two ventral sclerites of the eighth abdominal segment to the sides of the vinculum (Fig. 9, horizontal arrow), a large blunt tooth near the dorso-distal angle of the valva, and minute teeth near the distal end of the aedeagus shaft (Fig. 11).

Don Davis (pers. comm.) reports that the specimens were collected by blacklight about half a mile from the ocean in a relatively undisturbed habitat occupying a ravine. The surrounding countryside upland of the ravine was dry, treeless, and very disturbed, the only trees in the region being confined to ravines. The soil everywhere, both in and above the ravine, was sandy. The last point is of interest as the distribution of *Coenochroa* species suggests an association with sandy soil habitats.

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